

WHAT IS CLAIMED IS:

1. A deflector of a micro-column electron beam apparatus, comprising:
an isolation substrate having a hole formed at center of the isolation substrate;
plurality of deflecting plates formed along circumference of said hole at upper and lower sides of said isolation substrate;
plurality of pads formed on edges of said upper and lower sides of said isolation substrate; and
plurality of wirings for connecting each of said deflecting plates and each of said pads,
wherein said deflecting plates, wirings, and pads are formed integrated.
2. The deflector as claimed in claim 1, wherein a hole through which electron beams pass is formed within said hole by arrangement of said deflecting plates.
3. The deflector as claimed in claim 1, wherein said deflecting plates are arranged opposite to each other with said isolation substrate.
4. The deflector as claimed in claim 1, wherein said isolation substrate is made of ceramic alumina.
5. The deflector as claimed in claim 1, wherein said deflecting plates, wirings, and pads are made of beryllium, phosphor bronze, bronze, cupro-nickel,

stainless steel, or nickel, and are formed by plating process.

6. A method for fabricating a deflector of a micro-column electron beam apparatus, comprising the steps of:

(a) burying and hardening polymer in a hole formed at center of a substrate;

(b) forming first mask pattern so that some portion of seed metal layers is exposed to form deflecting plates, wirings and pads after forming said seed metal layers on both surfaces of said substrate;

(c) forming first metal layers on the exposed portion of said seed metal layers;

(d) forming second mask pattern on both surfaces of said substrate to expose said first metal layers in which said deflecting plates are to be formed;

(e) forming second metal layers on the exposed portion of said first metal layers;

(f) removing said first and second mask patterns; and

(g) removing said seed metal layers exposed and polymers buried in said hole.

7. The method as claimed in claim 6, further comprising:

a step for planarizing said polymers on both surfaces of said substrate by polishing process after said step (a).

8. The method as claimed in claim 6, wherein said first mask pattern is a

photoresist film, and formed by coating or laminating process.

9. The method as claimed in claim 6, wherein said first and second metal layers are made of beryllium, phosphor bronze, bronze, cupro-nickel, stainless steel, or nickel, and formed by plating process.

10. The method as claimed in claim 6, wherein said second mask pattern is made of polymers, and formed by laminating process.

11. The method as claimed in claim 6, further comprising:
a step for plating metal on exposed surfaces of said first and second metal layers after said step (g).

12. The method as claimed in claim 11, wherein said metal is gold.